

ABSTRACT

An semiconductor device package (10) with improved thermal properties that limits unwanted parasitics and provides a more consistent distribution of parasitics from one device to another. The package of the present invention (10) is extremely compact and uses, in one embodiment, a minimal length of bond wires (20 and 22) between the terminals (14 and 16) and the attached device (30). The path length of the package (10) is reduced so as to represent only some fraction of a wavelength relative to the terminals (14 and 16) of the package (10). By reducing the length of the bond wires (20 and 22) and selecting the appropriate dielectric constant of the encapsulant (12), the invention provides a package (10) with a unique hexagonal structure that limits the effects of parasitics and provides good thermal dissipation. In a second and third embodiment of the present invention, the semiconductor device package (10) is useful in optoelectronic devices such light emitting diodes with an anode (71) and a cathode (72). The use of the novel design in this implementation also improves thermal properties and limits unwanted parasitics.